

HABITS OF MALE HUMMINGBIRDS NEAR THEIR NESTS ¹

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IN the literature on the nesting habits of hummingbirds, it is frequently recorded that the male takes little interest during nesting, does not assist in nest building, and never shares in incubation. There are a few records of individuals standing guard at a discreet distance and occasionally darting at an intruder, but there are many recorded observations of hummingbirds in the United States claiming that the female is infuriated by a male's interest in her nest and drives him away. A few quotations will be sufficient.

Referring to *Archilochus colubris*, Ridgway (1892:272) writes: "The male frequently appeared in the vicinity, but neither offered food nor even deigned to alight on the same tree, yet birds which had a good claim in the neighborhood dared not approach very close. . . ." Torrey (in Chapman, 1896:241) remarks concerning the same species: "The male . . ., forgetful, to all appearance, of his conjugal and parental duties, may be found at home day after day on a dead twig in some tall tree. . . ." William Kobbé (1900:12) states that during the nesting season the male Rufous Hummingbirds (*Selasphorus rufus*) "frequently, but not always, sit near the tree in which their home is placed and attempt to drive all birds from the vicinity of the nest. . . . I have good reasons to believe that they do this more from a love of fighting than from parental instinct or devotion, since the male birds rarely appear upon the scene when their nest is being taken." In the field notes of Hamilton and Goodfellow (Oberholser, 1902:320) a long account appears of the nesting of Gould's Violet-ear [*Colibri c. coruscans*] in the courtyard of the British Consulate at Quito, Ecuador. The notes give the impression that both birds may take part in nest building, but "when the first egg is laid, the male bird entirely disappears from the garden and never comes near it again until the young have flown." (This observation is contrary to my own experience with the same species, which is recorded below.) Concerning the Calliope Hummingbird (*Stellula calliope*), Joseph Grinnell (1908:73) writes: "I saw not the least evidence that the male has anything whatever to do with nestbuilding or caring for the young. And on only one or two occasions did I ever see a male invade the cañon-bottom where the females were nesting, and then he was routed out by an irate mother." My experience with this species has led me to no contrary belief. Regarding the Anna Hummingbird (*Calypte anna*), Dawson (1923:940) is more positive, saying: "As to the male bird, he has no part in these festivities. Not only is he forbidden to assist in the building of the home, but he is banished forever from

¹ Contribution from the California Institute of Technology, Pasadena, California.

its sacred precincts." Wheelock (1916:419, 423), however, remarks concerning the Black-chinned Hummingbird (*Archilochus alexandri*): "The father, . . . contrary to hummingbird etiquette, sat within two feet of the brooding mother," and of the Anna male: "One thing I know, he was 'on guard,' for whenever I ventured near the rose tree, he flew at me with a harsh little screech, sometimes right into my face." My search of the literature has not been exhaustive, and I may have missed some pertinent references, but it seems worth while to put on record the following observations.

On April 21, 1927, at Cruz Loma, on the northern slopes of Mt. Pichincha, Ecuador, I wandered through a grove of trees known to the Indians as "guantos." Possessing an enormous flower of pinkish orange color 14 inches in length, the tree is related to our trumpet flowering vines and is known as the *Datura sanguinea*. The Sword-billed Hummingbird (*Ensifera ensifera*) is inordinately fond of the insects that infest the handsome corollas and probes them constantly with its bill four inches long and its tongue nearly twice that length. When I passed under a tree, a female darted at me, making me suspect the presence of a nesting site. For two hours I climbed over the various branches in a desperate effort to find the nest, which apparently is unknown to science. Throughout this period both male and female, the former easily recognized by his black throat and more glittering green underparts, persisted in attacking me with extraordinary ferocity. On one occasion the male struck my cap and nearly dislodged me from the tree by forcing me to defend my head. The indefatigable onslaughts of these two birds, persisting for more than two hours, convinced me this tree had been chosen as a nesting-site, although the only evidence of a nest—a spot on one of the branches where lichens appeared to have been artificially attached—was not conclusive. No other bird of the species was observed, so that it would seem safe to conclude these two were mates.

A less bold species is *Lesbia victoriae aequatorialis*, the famous long tailed Train-bearer. I discovered a nest of this species on April 3, 1927, on the eastern slopes of Mt. Pichincha that contained one young bird. The nest was built on dead plants that depended from a bank of earth not 15 feet from the hovel of a Quichua Indian. In spite of her familiarity with the noises of the children and the dog, the female was extremely cautious in her approach to the nest. Only on one occasion did the male show concern. He then flew with the female to a tree about 50 feet to the right of the nest. There was, of course, not the least difficulty in distinguishing him, since his tail is approximately six and a half inches long, whereas that of the female is but two and a half.

At Panigulli, not far from the active volcano, Mt. Tungurahua, in southeast Ecuador, on May 9, 1927, I discovered a nest of the Tyrian-tail (*Metallura t. tyrianthina*). I observed only one bird, and it was building. Extremely tame, it persisted in nesting operations in spite of my presence, even carrying materials to the nest when I was within 10

feet of it. The bird was secured and was sexed by our collector, Carlos Olalla, *as a male*. Unfortunately, I was not at the camp site when the skin was prepared. On my return, I noted that this specimen, No. 2546, Moore Collection, has the chin and throat feathers damaged, but the green of the male sex shows on the sides of the chin. The rest of the coloration is normal, precisely like male, Moore Collection No. 2541, sexed by myself and collected at Baños de Papallacta, Ecuador. I have found Carlos Olalla, who has collected birds for more than 40 years, generally, but not infallibly, accurate in his sexing.

On March 29, 1927, in a small park of Quito, Ecuador, I discovered a nest of the Gould's Violet-ear containing two eggs. Not more than eight feet above the ground, it was swung on a sharply descending branch of a large tree, which resembled a *Casuarina*. As the nest was close to a park bench and only a hundred yards from my hotel, I was able to observe it with comfort at close range for six days, using an 8 x binocular. I recorded extensive notes on the habits of both the male and female. The two sexes are practically indistinguishable in the field, but the female is generally more golden bronze above and below. However, both birds were seen repeatedly at the same moment on the same tree during the six days the nest was under observation and, although it was impossible always to tell which of the birds was incubating, it seemed a safe assumption that the one that had a permanent guard-site, on a dead branch 60 feet up in the same tree, was the male. Whether he ever incubated the eggs or not, I was unable to say. During the six days, this bird was repeatedly found "on guard" at the watch-site. Occasionally he sat on other dead twigs of the same tree 30 feet up and sometimes on the electric light wires. Once he perched on a branch closer to the nest. At no time did the incubating bird drive the guarding bird away. On April 2, rain fell heavily during the entire period of observation. The female could not be persuaded to leave the eggs, even by throwing particles of mud at her. Meanwhile the male continued to stand guard at his exposed post. He stretched out his wings and ruffled his body feathers. He plainly classed me as interloper. On several occasions he dove at me furiously, generally when I was close to the nest; but on one occasion there were several Ecuadorians between me and the nest, and yet he singled me out for an exhibition of his antipathy. Not once did I observe him dart at the Ecuadorians that thronged the park, even though they frequently sat on the bench within 10 feet of the nest. I hesitate to say he *remembered* that I was the one he had observed moving off regulation paths and examining the nest at close range.

I also repeatedly observed him give an interesting variation of the "tower and dive" performance near the nest. He whirled from his perch perpendicularly into the air, very much after the manner of the Anna Hummingbird. The tail was not spread fully until near the top of the perpendicular ascent, at which point it spread so wide that every rectrix

separated from the adjoining ones and the spaces between the rectrices were plainly visible through a binocular as they were silhouetted against the sky. At the peak of the ascent the rectrices were suddenly bent upwards at right angles to the bird's body, and at the same moment the body turned over backwards, causing the bird to drop like a plummet. The bird generally finished by volplaning downwards to its accustomed guard-site above the nest. The tail feathers were kept expanded for the first 50 feet of the drop, but from there on they were drawn in, and the bird approached the tree with tail practically closed, until immediately before alighting, when the feathers were again spread to extreme capacity and pointed sharply downwards at an angle of almost 90 degrees, thus slowing down the terrific speed of the descent and making a graceful landing possible. My notes record: "The tail when spread was always held convexly—rounded at the top."

On April 28, 1927, at Nono Pungo, on the road to Gualaes from Quito, I discovered another nest of Gould's Violet-ear. It was placed in a large bush near the highway four feet from the ground and could easily be held under close observation. At the time of discovery, a Violet-ear was sitting on it. The bird flushed and, alighting only a few feet away in plain sight, was shot and collected. I proceeded to put up my tripod and camera in order to take a photograph of the nest and surroundings. Looking up, I discovered to my utter astonishment, another Violet-ear, less golden bronze above, sitting on the nest. Realizing that a *male humming-bird appeared to be incubating*, I flushed it after a full five minutes of observation within eight feet of it, watched it carefully in its short flight of five feet to a dead twig, and collected it. Dissection proved that the first bird collected was a female (No. 1052, Moore Collection) and the second a male (No. 1030, Moore Collection). During the time I watched the male on the nest, it made the swaying motion characteristic of an incubating bird adjusting its feathers to the eggs and nest. This female is conspicuously more golden above and below than the male, a contrast often, but not always, differentiating the sexes. The nest, as well as the two eggs (which were fresh), was also collected (Moore Collection, No. E 16). In my judgment, no mistake could have been made in this identification. The bush was thick, but the nest was in plain sight near the periphery of the bush. In the case of each bird, neither limb nor twig intervened to obscure the flight from the nest to a twig of the same bush, where it was killed. I personally collected both birds and kept them carefully in my pocket until dissection began, and I supervised that throughout, checking the sexing, because I was aware of the importance of this observation. I made full notes in my small pocket notebook on the spot. At no time did I observe both birds at the same instant; in fact, I did not realize that the male was near the nesting site until the female was killed. Perhaps the male was aware of his mate's death and, flying to the nest at the sound of the shot, found the eggs were not covered and unhesitatingly took his turn.

In a recent article by Helmuth O. Wagner (1945:172) this Violet-ear was incorrectly identified as *Colibri cyanotus*. My earlier article (1939:315) gave no Latin name and stated only: "In Ecuador I have observed the male and female Violet-ear take turns incubating at the same nest and collected both sexes to substantiate this observation." (It might have been better for me to employ the singular "turn," since the male was observed sitting on the nest just once.) The Violet-ear I referred to was *Colibri c. coruscans*, formerly known as *Petasphora iolata*.

Perhaps I should caution the reader not to jump to the conclusion that it is a common thing for male hummingbirds of Ecuadorian species to take part in nesting activities. Approximately 50 nests of hummingbirds were found by our party in Ecuador, and with the exception of the incidents noted above and a few less convincing ones, the males either were not observed near the nest or else maintained a guard-site some distance away. Nevertheless, regarding some species, such as *Colibri coruscans*, I am inclined to believe that more extensive observations will prove that the male quite frequently takes part in nest-building and, at least under some circumstances, assists in incubation.

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